Listing of Claims

1. (Canceled).

2. (Currently Amended) A method for synchronizing a data interchange in a semiconductor substrate integrated electronic circuit comprising a transmitter block and a receiver block connected through a communication network, comprising:

generating a data signal having a transmission period on a first line that is sent from said transmitter block to ~~must~~ be received by the receiver block;

generating on a second line a congestion signal sent from the receiver block to the transmitter block when a congestion event of the receiver block occurs in order to interrupt the transmission of said data signal; and

generating on a third line a synchro signal sent ~~starting~~ from said transmitter block, this synchro signal indicating to the receiver block that the data signal on the first line comprises a new datum,

wherein ~~and in that~~ the congestion signal interrupts also the transmission of said synchro signal when a congestion event of the receiver block occurs, and

wherein said synchro signal is delayed for communication over the third line with respect to the data signal which is communicated over the first line.

3. (Previously Presented) The method for synchronizing the data interchange according to claim 2, wherein said synchro signal is delayed by a half transmission period with respect to the data signal.

4. (Currently Amended) A method for synchronizing a data interchange in a semiconductor substrate integrated electronic circuit comprising a transmitter block and a receiver block connected through a communication network, comprising:

generating a data signal having a transmission period on a first line that from said transmitter block must be received by the receiver block;

generating on a second line a congestion signal from the receiver block to the transmitter block when a congestion event of the receiver block occurs in order to interrupt the transmission of said data signal;

generating on a third line a synchro signal starting from said transmitter block, this synchro signal indicating to the receiver block that the data signal comprises a new datum, and in that the congestion signal interrupts also the transmission of said synchro signal when a congestion event of the receiver block occurs; and

reading, by the receiver block, of the data signal with a different sampling period than ~~from~~ the transmission period of the transmitter block.

5. (Currently Amended) The method for synchronizing the data interchange according to claim 4 wherein the different sampling period is a shorter ~~lower~~ sampling period than the transmission period of the transmitter block.

6. (Previously Presented) A method for synchronizing a data interchange in a semiconductor substrate integrated electronic circuit comprising a transmitter block and a receiver block connected through a communication network, comprising:

generating a data signal having a transmission period on a first line that from said transmitter block must be received by the receiver block;

generating on a second line a congestion signal from the receiver block to the transmitter block when a congestion event of the receiver block occurs in order to interrupt the transmission of said data signal; and

generating on a third line a synchro signal starting from said transmitter block, this synchro signal indicating to the receiver block that the data signal comprises a new datum, and in that the congestion signal interrupts also the transmission of said synchro signal when a congestion event of the receiver block occurs,

wherein said first, second and third lines are split in corresponding stages, each stage being separated through a corresponding repeater, the repeaters of the first and third lines being of the tristate type and being driven by the repeater of the second line when a congestion event occurs at the receiver block so that the data signal and the synchro signal are stored in the stages of the first and third lines.

7. (Currently Amended) The method for synchronizing the data interchange according to claim 6, wherein said stages have an elementary delay which must be shorter ~~lower~~ than half the transmission period.

8. (Currently Amended) A method for synchronizing a data interchange in a semiconductor substrate integrated electronic circuit comprising a first ~~transmitter~~ block and a second ~~receiver~~ block connected through a communication network, comprising:

generating a data signal having a transmission period on a first bi-directional line that from said first ~~transmitter~~ block must be received by the second ~~receiver~~ block;

generating on a second line a congestion signal from the second ~~receiver~~ block to the first ~~transmitter~~ when a congestion event of the second ~~receiver~~ block occurs in order to interrupt the transmission of said data signal;

generating on a third line a synchro signal starting from said first ~~transmitter~~ block, this synchro signal indicating to the second ~~receiver~~ block that the data signal comprises a new datum, and in that the congestion signal interrupts also the transmission of said synchro signal when a congestion event of the second ~~receiver~~ block occurs; and

generating, on a couple of further lines, a couple of unidirectional signals indicating the transmission direction on the first bi-directional line between said first ~~transmitter~~ block and said second ~~receiver~~ block, a negotiation to define the transmission direction being controlled by a further transmission request signal driven by the second ~~receiver~~ block.

9. (Original) An integrated electronic circuit being integrated on a semiconductor substrate comprising a transmitter block and a receiver block connected through a communication network, said communication network comprising a first line for a data signal, a second line for a congestion signal, and a third line for a synchro signal, wherein said first, second and third lines are split in corresponding stages, each stage being separated through a corresponding repeater, the repeaters of the first and third lines being of the tristate type and being driven by the repeater of the second line when a congestion event of the receiver block occurs so that the data signal and the synchro signal are stored in the stages of the first and second lines.

10. (Original) The integrated electronic circuit of claim 9 wherein said signal line comprises a couple of further lines for a couple of unidirectional signals indicating the transmission direction between said transmitter block and said receiver block, a negotiation to define the transmission direction being controlled by a further transmission request signal driven by the receiver block.

11. (Previously Presented) An architecture for manufacturing an integrated electronic circuit being integrated on a semiconductor substrate comprising a transmitter block and a receiver block connected through a communication network, said communication network comprising a plurality of signal lines each split in elementary blocks, each block being separated through a repeater, said elementary blocks being connected to said receiver and transmitter blocks through interface devices equipped with unidirectional signals, wherein each elementary block is realized through a multiplexer 2x2.

12. (Original) The architecture according to claim 11, wherein said signal lines comprise a couple of further lines carrying unidirectional signals indicating the transmission direction between said transmitter block and said receiver block, a negotiation to define the transmission direction being controlled by a further transmission request signal driven by the receiver block.

13. (Canceled).

14. (Currently Amended) A communication protocol method, comprising:

transmitting from a transmitting entity to a receiving entity along with a data signal a synchronization signal indicating to the ~~[[a]]~~ receiving entity that the data signal comprises new datum; and

inhibiting transmission of the synchronization signal by the transmitting entity in response to an indication received from the receiving entity of the existence of a congestion condition at the receiving entity,

wherein the data signal is communicated on a first communication line and the synchronization signal is communicated on a second communication line; and

wherein transmitting comprises sending the synchronization signal over the second communication line delayed with respect to sending the data signal over the first communication line.

15. (Canceled).

16. (Currently Amended) The protocol method as in claim 14 ~~15~~, wherein the indication of the existence of a congestion condition at the receiving entity is received over a third communication line.

17. (Previously Presented) The protocol method as in claim 14 further including inhibiting transmission of the data signal in response to the indication received from the receiving entity of the existence of a congestion condition at the receiving entity.

18. (Canceled).

19. (Previously Presented) A communication system, comprising:

a first communication block;

a second communication block;

a communication network interconnecting the first and second communication blocks, the communication network comprising:

a first communication line for carrying a data signal;

a second communication line for carrying a congestion signal; and

a third communication line for carrying a synchronization signal, wherein the synchronization signal is active whenever the data signal on the first communication line is new datum and inactive whenever the congestion signal on the second communication line is active,

wherein the first, second and third communication lines are each split into corresponding stages, further comprising:

a repeater device separating consecutive ones of the stages.

20. (Canceled).

21. (Previously Presented) The system of claim 19, wherein the repeater devices for the first and third communication lines are of a tristate type wherein the repeater devices of the second communication line drive the tristate operation of the repeater devices for the first and second communication lines in response to the congestion signal being active so that the data signal and the synchronization signal are stored in stages of the first and second communication lines.

22. (Currently Amended) A communication system, comprising:

a first communication block;

a second communication block;

a communication network interconnecting the first and second communication blocks, the communication network comprising:

a first communication line for carrying a data signal;

a second communication line for carrying a congestion signal; and

a third communication line for carrying a synchronization signal, wherein the synchronization signal is active whenever the data signal on the first communication line is new datum and inactive whenever the congestion signal on the second communication line is active;

wherein the first, second and third communication lines are bi-directional, further including:

a transmit signal line; and

a receive signal line;

wherein the transmit and receive signal lines interconnect the first and second communication blocks, and control signals thereon specify, for the bi-directional first communication line, which of the first and second communication blocks is a transmitter of the data signal and which of the first and second communication blocks is a receiver of the data signal.

23. (Original) The system of claim 22, further including a request signal line that interconnects the first and second communication blocks, and a control signal thereon used to negotiate which of the first and second communication blocks is to be transmitter/receiver.

24. (Canceled).

25. (Currently Amended) A communication system, comprising:

a first communication block;

a second communication block;

a communication network interconnecting the first and second communication blocks, the communication network comprising:

a first communication line for carrying a data signal;

a second communication line for carrying a congestion signal; and

a third communication line for carrying a synchronization signal, wherein the synchronization signal is active whenever the data signal on the first communication line is new datum and inactive whenever the congestion signal on the second communication line is active;

wherein the active synchronization signal transmission over the third communication line is delayed with respect to transmission of the data signal on the first communication line.